

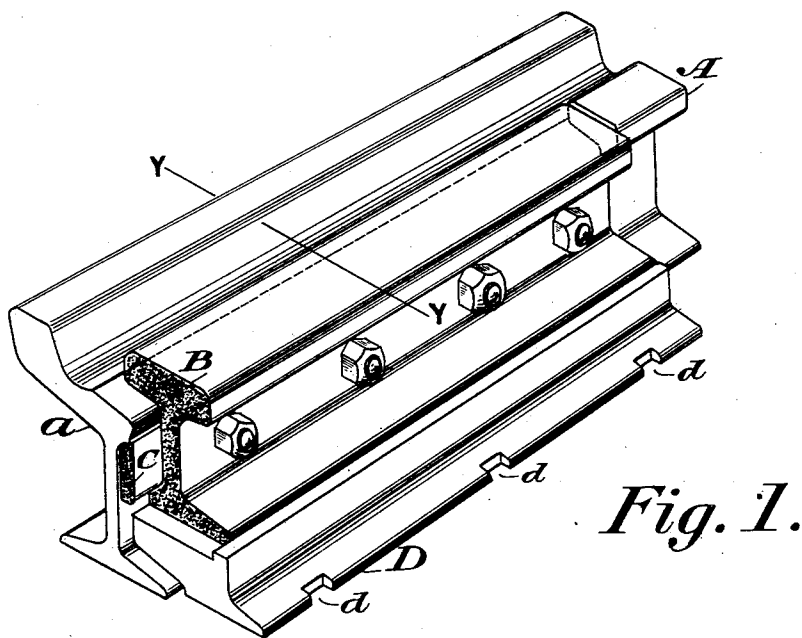
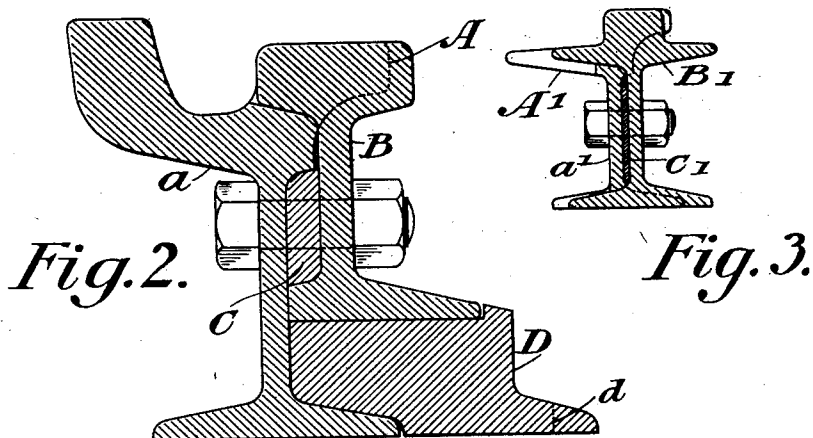
(No Model.)

2 Sheets—Sheet 1.

R. P. WILLIAMS.
RAIL JOINT.

No. 580,071.

Patented Apr. 6, 1897.



WITNESSES:

D R M Linn
Geo. P. Lippes

R. P. Williams ^{INVENTOR}

BY *Richard Lippes*
ATTORNEY.

(No Model.)

2 Sheets—Sheet 2.

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Fig. 5.

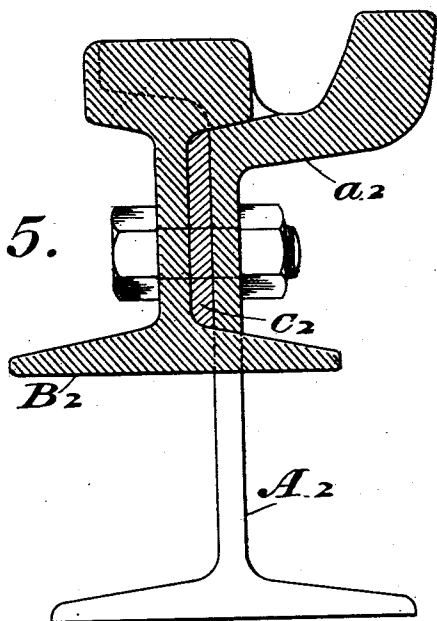


Fig. 6.

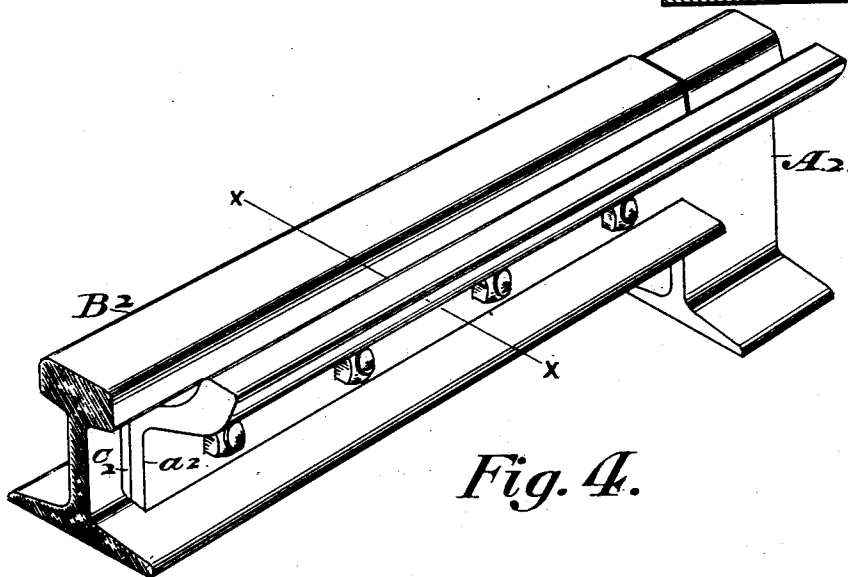
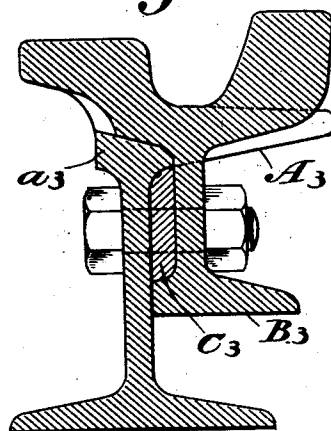


Fig. 4.

WITNESSES:

D. R. McLain
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UNITED STATES PATENT OFFICE.

RICHARD PATRICK WILLIAMS, OF JOHNSTOWN, PENNSYLVANIA, ASSIGNOR
TO THE JOHNSON COMPANY, OF LORAIN, OHIO.

RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 580,071, dated April 6, 1897.

Application filed December 22, 1896. Serial No. 616,683. (No model.)

To all whom it may concern:

Be it known that I, RICHARD PATRICK WILLIAMS, residing at Johnstown, in the county of Cambria and State of Pennsylvania, have
5 invented certain new and useful Improvements in Rail-Joints, of which the following is a specification.

My invention relates to rail-joints, and more particularly to a method of uniting rails
10 of dissimilar section, and my improvement may be used on any combination of rails provided that the web of one of the rails is not in the same vertical plane in relation to the head of the rail as is the web of the other
15 of the rails.

The object of my invention is to provide a strong and durable joint between such rails and yet dispense with the use of the splice-bars ordinarily used.

20 To this end my invention consists, broadly, in removing portions of one or both rails in such a manner that they can be bolted or otherwise secured directly together without requiring the provision of the usual splice-bar and without breaking the substantial continuity of the tread-surface of the rails.

Referring to the drawings, Figure 1 is a perspective view of one form of my invention, and Fig. 2 is a vertical section on the line Y Y
30 of Fig. 1. Fig. 4 is a perspective view of another form of my invention, and Fig. 5 is a vertical section on the line X X of Fig. 4. Fig. 3 is a section similar to that shown in Fig. 2, but showing a different combination
35 of rail-sections, the filler-block D not being shown. Fig. 6 is another similar section, showing a still different combination of rails, and here the filler-block D is not required.

40 A, A', A², and A³ are rail-sections which are shown as joined, respectively, to B, B', B², and B³.

Referring more particularly to Figs. 1 and 2, which show the form of joint I prefer when I am enabled to remove portions of each rail,
45 A is what is known to the art as a "side-bearing" girder guard-rail—that is, the web of the rail does not support the head under its center, but at one side of the center. B is a center-bearing T-rail. To make the joint, I
50 cut away by any suitable means the head

portions of rail A from the end thereof to a point in its length sufficiently far from the end to allow of a good splice being made. This leaves the contour of rail A so shaped as to fit the under side of the head of rail B. 55 One flange of rail B is partly cut away, as shown, throughout the splicing distance, so that the uncut portion of said flange fits against the web of rail A. Whatever space is formed between the webs by lapping the 60 shaped ends of the rails alongside each other is filled by the filler-piece C. The joint is then secured by bolting the two webs and the filler-piece together, or by any other suitable manner of fastening the adjacent webs to 65 each other.

D is a filler-block adapted to support the rail B, as shown, and may be spiked at *d d* to the railway-tie.

In Figs. 4 and 5 I show my method of pre- 70 paring one of the rails for the splice when I cannot conveniently, or when it is not desired to, remove any portion of the other of said rails. B² is a center-bearing T-rail, and A² is a side-bearing girder guard-rail. B² has 75 the same portion of its section removed as has been previously described in the case of rail A, but in addition thereto the lower part of the web and the whole of the flange have been cut away. By this arrangement I dis- 80 pense with the necessity of the filler-block D and with the necessity of removing any portion of rail B², which may be placed upon a chair or spiked directly to the tie.

Figs. 3 and 6 merely show other possible 85 combinations of rail-sections joined by my improved method and do not require detailed description.

Various modifications and changes in details not covered by the exact description here- 90 in will readily suggest themselves to those skilled in the art. I do not, therefore, confine myself to the exact details herein shown and described, nor to the use of my invention upon the particular rails I here show. I might slot 95 out the web of rail A² to allow the passage therethrough of the flange of B², thus allowing the flange of A² to be continuous throughout and supporting the untouched flange of B² without the intervention of the filler-block 100

D. I might when conditions make it desirable remove the head portions of the B series of rails instead of so doing with the A series, as shown.

5 What I claim, and desire to protect by Letters Patent, is—

1. In combination, a rail having a suitable length of its head portion removed, a second rail with its head taking the place of said removed head, the webs of the said rails being
10 moved head, the webs of the said rails being alongside each other, and suitable means, as bolts, for fastening the rails together through their contiguous webs.

2. In combination, a rail having a suitable
15 length of its head portion removed, a second rail with its head taking the place of said removed head, the webs of the said rails being alongside each other, a filler-piece between said webs, and suitable means, as bolts, for
20 fastening the rails together through their contiguous webs and the interposed filler-piece.

3. In combination, a rail having a suitable length of its head portion removed, a second rail with its head taking the place of said removed head, the webs of the said rails being
25 alongside each other, a filler-block between the bottom of one of the rails and the top of the lower flange of the other of the rails, and suitable means, as bolts, for fastening the
30 rails together through their contiguous webs.

4. In combination, two rails having webs in different vertical planes from each other as related to their gage-lines, a suitable length of
35 of said rails being removed, the other of said rails being placed with a similar length of its tread-surface taking the place of said removed

tread-surface, and means for securing the rails together.

5. In combination, two rails having webs in
40 different vertical planes from each other as related to their gage-lines, a suitable length of substantially the entire tread portion of one of said rails being removed, the other of said rails being placed with a similar length of its
45 tread-surface taking the place of said removed surface, a filler-piece between the webs of the said rails, and means for securing the rails together.

6. In combination, a side-bearing rail with
50 a suitable length of its head portion removed, a center-bearing rail with its head taking the place of said removed head, the gage-lines of the two rail-heads being in alinement, and means for securing said rails together.

7. In combination, a side-bearing rail with
55 a suitable length of its head portion removed, a center-bearing rail with its head taking the place of said removed head, the gage-lines of the two rail-heads being in alinement, a filler-
60 piece between the webs of the said rails, and means for securing said rails together.

8. In a rail-joint, two rails of different
65 height, means for securing the rails together, and a filler-block bearing against the bottom of the shorter rail and the top of the lower flange of the other rail.

In testimony whereof I have affixed my signature in presence of two witnesses.

RICHARD PATRICK WILLIAMS.

Witnesses:

H. W. SMITH,
JOHN T. WOLFE.